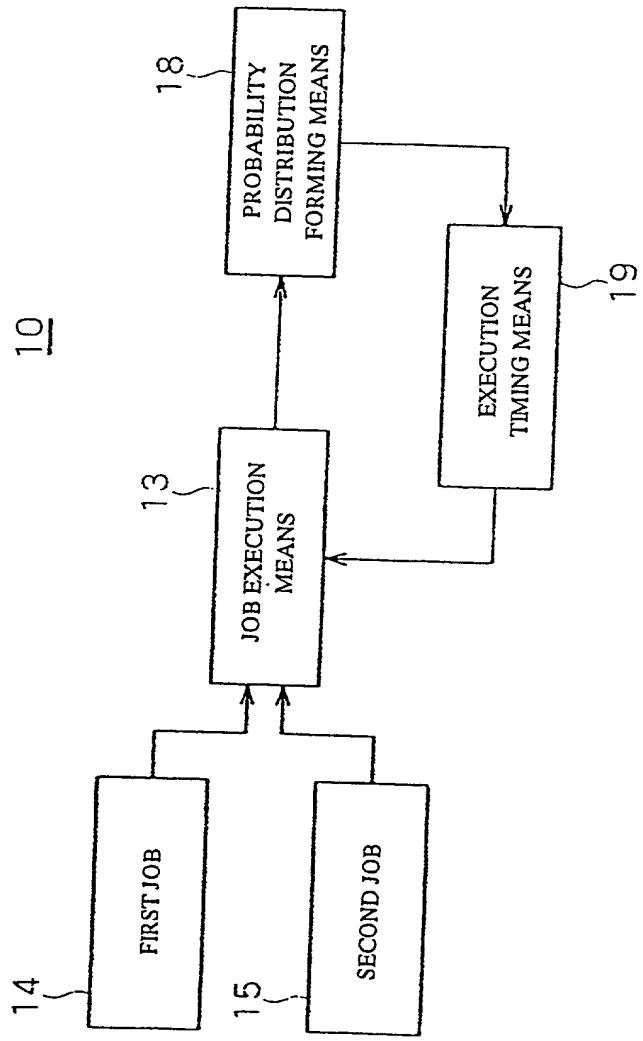
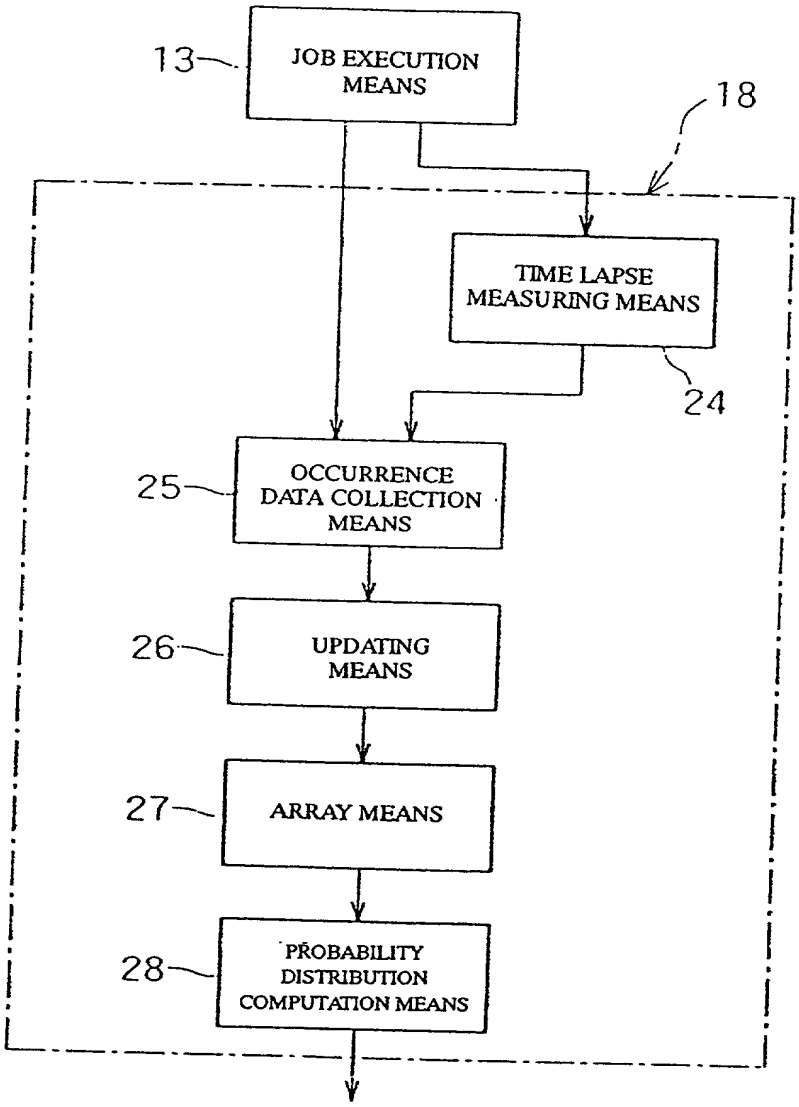
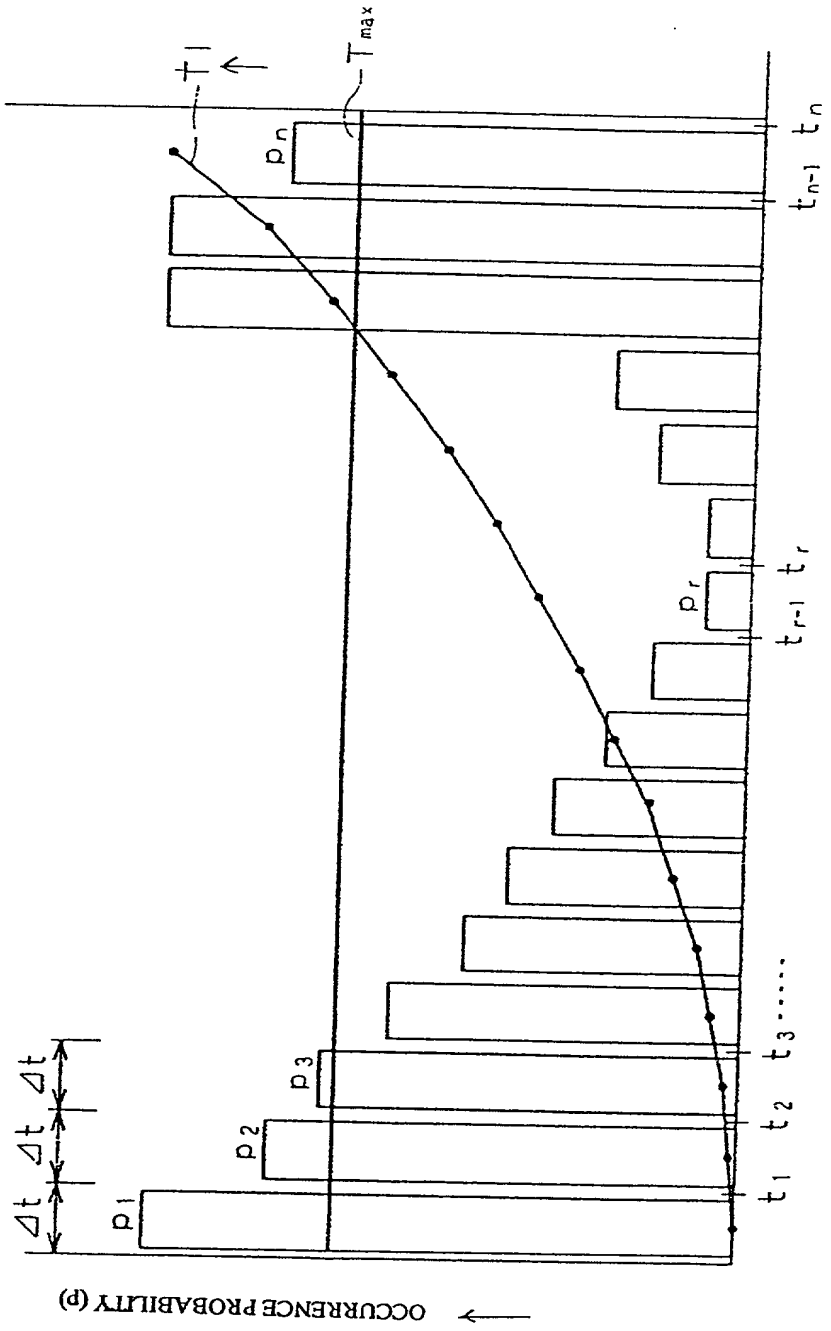
[Figure 1]


10
18
PROBABILITY DISTRIBUTION FORMING MEANS
19
EXECUTION TIMING MEANS
13
JOB EXECUTION MEANS
14
FIRST JOB
15
SECOND JOB

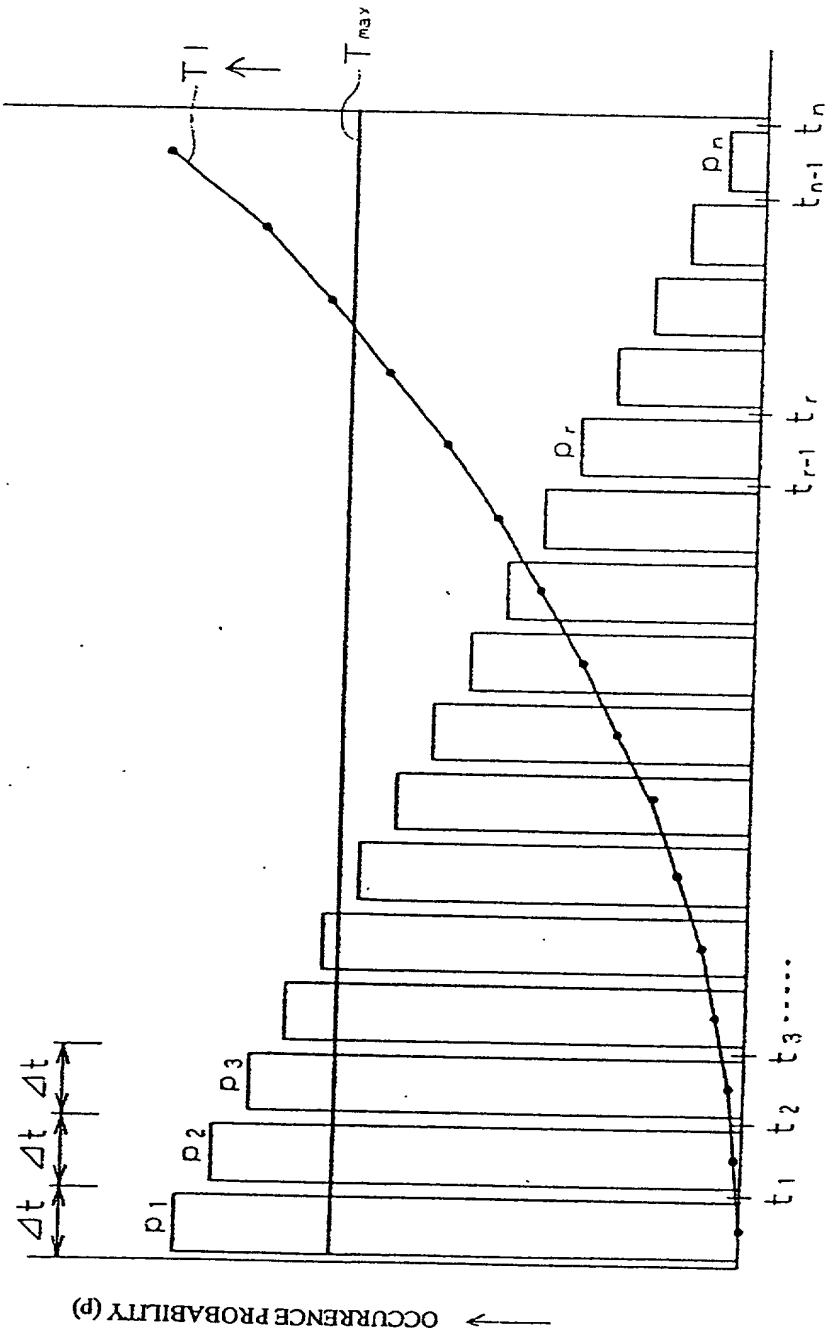
[Figure 2]


13
JOB EXECUTION MEANS
18
TIME LAPSE MEASURING MEANS
24
25
OCCURRENCE DATA COLLECTION MEANS
26
UPDATING MEANS
27
ARRAY MEANS
28
PROBABILITY DISTRIBUTION COMPUTATION MEANS

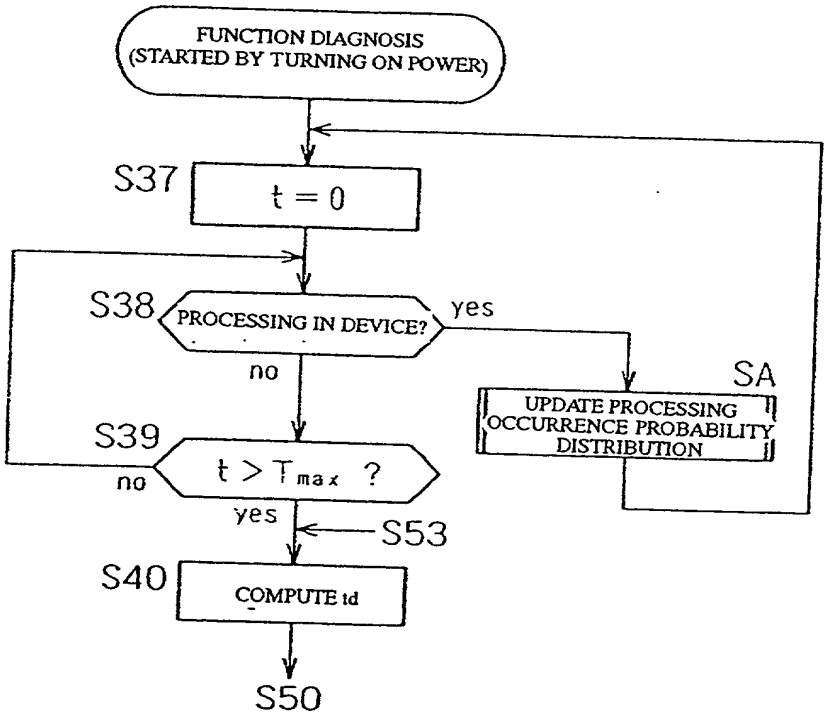
[Figure 3]


T1
Tmax
pn
tn-1 tn
pr
tr-1 tr
p3
p2
p1
t1 t2 t3.....
Δt Δt Δt
OCCURRENCE PROBABILITY (p)

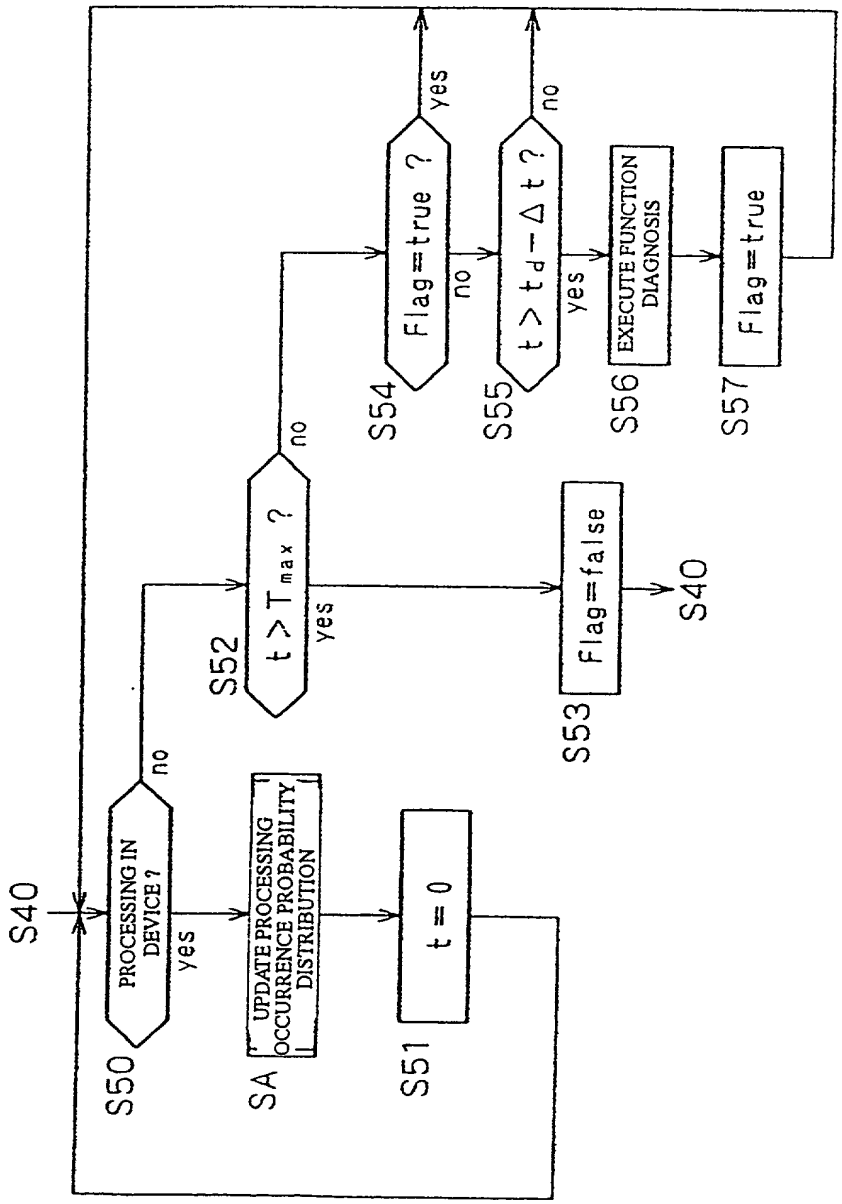
[Figure 4]


T1
Tmax
pn
tn-1 tn
pr
tr-1 tr
p3
p2
p1
t1 t2 t3.....
Δt Δt Δt
OCCURRENCE PROBABILITY (p)

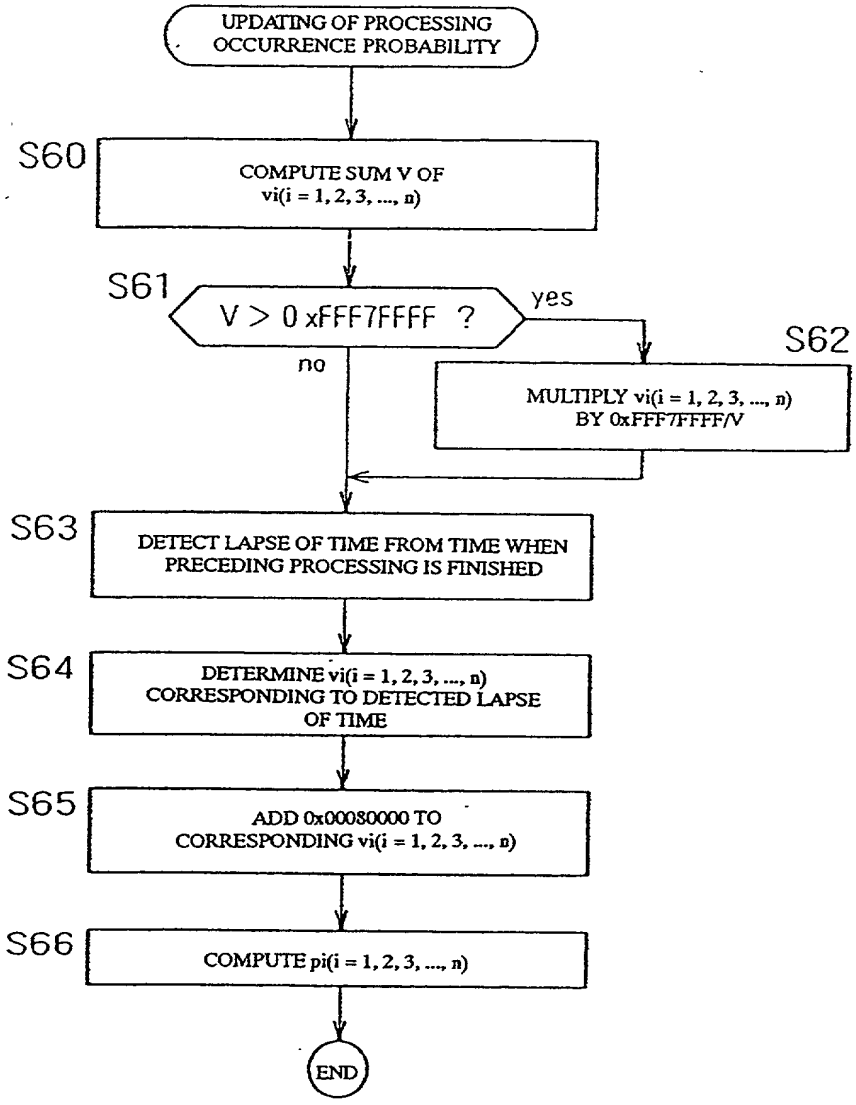
[Figure 5]



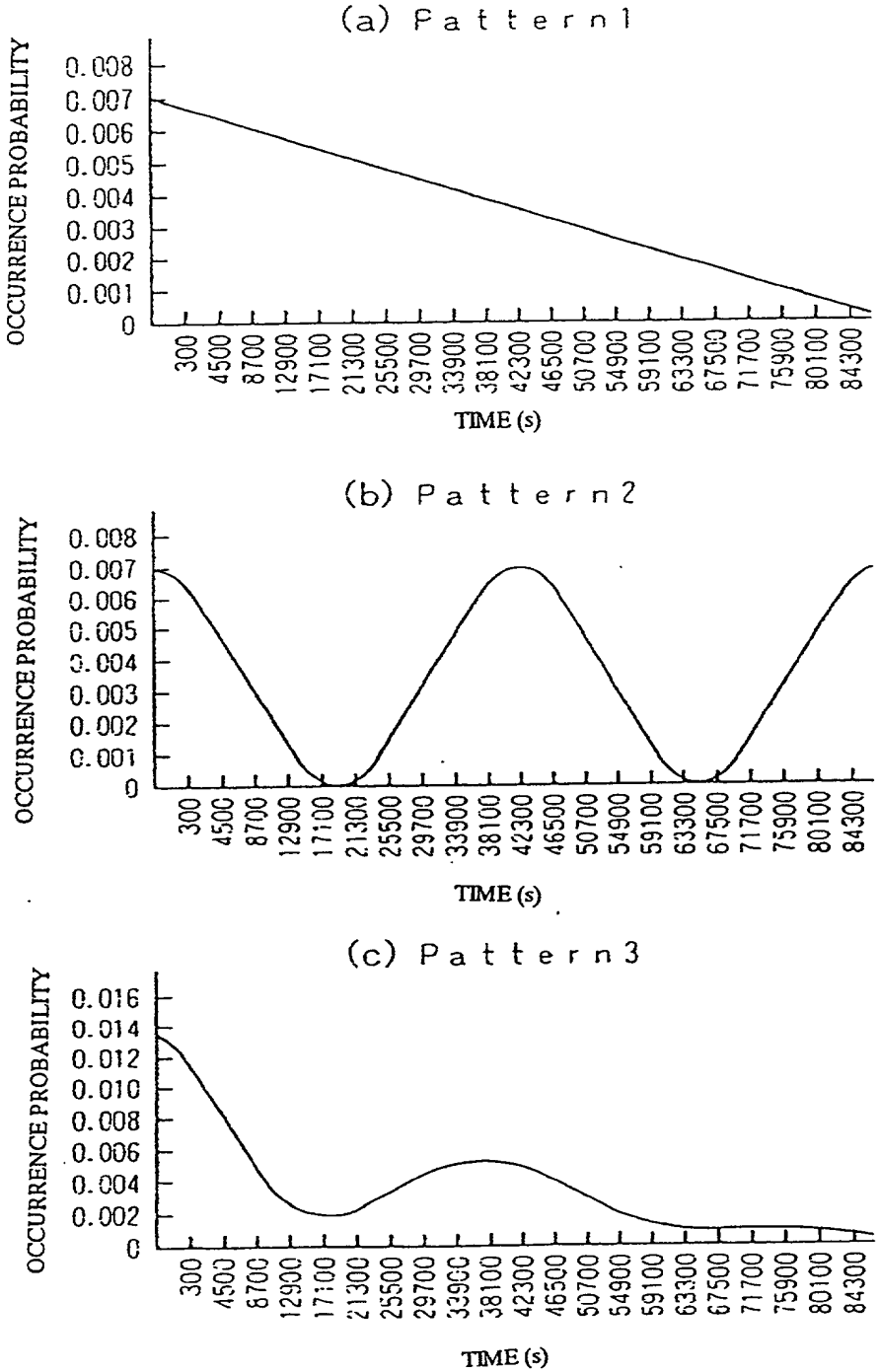
[Figure 6]


S40
PROCESSING IN DEVICE ?
yes
no
S50
UPDATE PROCESSING OCCURRENCE PROBABILITY DISTRIBUTION
SA
t = 0
S51
t > Tmax ?
yes
no
S52
Flag=false
S53
S40
Flag=true ?
yes
no
S54
t > td − Δt ?
yes
no
S55
EXECUTE FUNCTION DIAGNOSIS
S56
Flag=true
S57

[Figure 7] (7/12)


UPDATING OF PROCESSING OCCURRENCE PROBABILITY
S60
COMPUTE SUM V OF vi(i = 1, 2, 3, ..., n)
S61
V > 0 xFFF7FFFF ?
yes
no
S62
MULTIPLY vi(i = 1, 2, 3, ..., n) BY 0xFFF7FFFF/V
S63
DETECT LAPSE OF TIME FROM TIME WHEN PRECEDING PROCESSING IS FINISHED
S64
DETERMINE vi(i = 1, 2, 3, ..., n) CORRESPONDING TO DETECTED LAPSE OF TIME
S65
ADD 0x00080000 TO CORRESPONDING vi(i = 1, 2, 3, ..., n)
S66
COMPUTE pi(i = 1, 2, 3, ..., n)
END

[Figure 8]

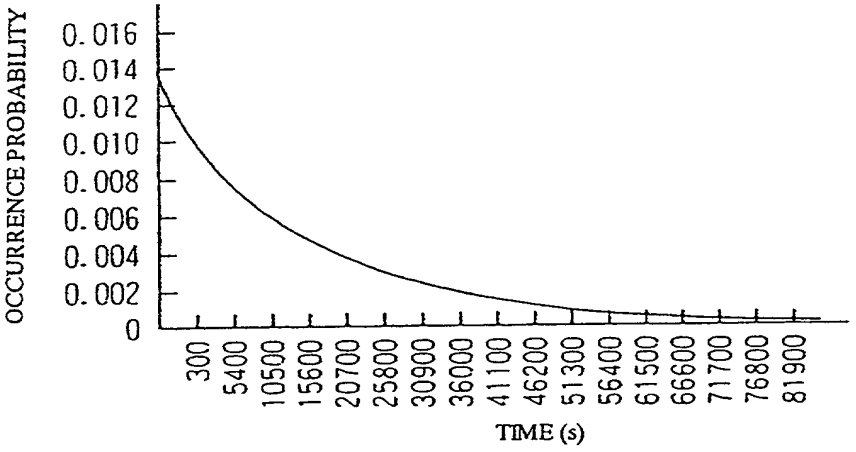

(a) Pattern1
OCCURRENCE PROBABILITY
0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
300
4500
8700
12900
17100
21300
25500
29700
33900
38100
42300
46500
50700
54900
59100
63300
67500
71700
75900
80100
84300
TIME (s)
(b) Pattern2
OCCURRENCE PROBABILITY
0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
300
4500
8700
12900
17100
21300
25500
29700
33900
38100
42300
46500
50700
54900
59100
63300
67500
71700
75900
80100
84300
TIME (s)
(c) Pattern3
OCCURRENCE PROBABILITY
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
0
300
4500
8700
12900
17100
21300
25500
29700
33900
38100
42300
46500
50700
54900
59100
63300
67500
71700
75900
80100
84300
TIME (s)

[Figure 9]

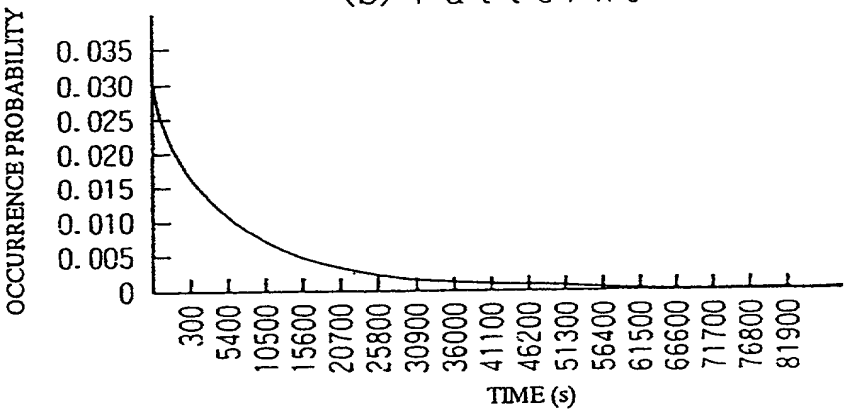
	Pattern1	Pattern2	Pattern3
PERIOD (DAYS)	13,659	20,613	12,690
OVERLAPPING RATE (CONVENTIONAL METHOD) (TIMES/YEAR)	0.75	0.50	0.82
OVERLAPPING RATE (PROPOSED METHOD) (TIMES/YEAR)	4.21×10^{-5}	3.72×10^{-6}	9.02×10^{-5}
RATIO OF OVERLAPPING RATES (%)	5.61×10^{-4}	7.44×10^{-6}	1.10×10^{-4}

[Figure 10]

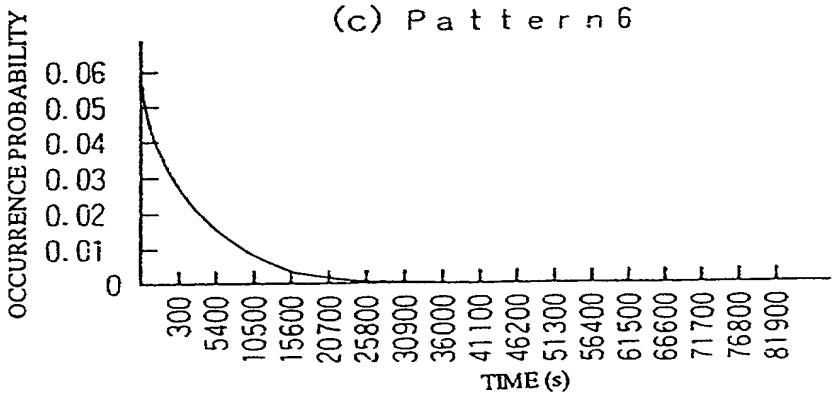
(a) Pattern4



(b) Pattern5



(c) Pattern6



[Figure 11]

	Pattern4	Pattern5	Pattern6
PERIOD (DAYS)	90,840	5,861	2,674
OVERLAPPING RATE (CONVENTIONAL METHOD) (TIMES/YEAR)	1.05	1.77	3.88
OVERLAPPING RATE (PROPOSED METHOD), (TIMES/YEAR)	7.52×10^{-5}	9.44×10^{-6}	2.46×10^{-5}
RATIO OF OVERLAPPING RATES (%)	7.16×10^{-4}	5.33×10^{-6}	6.34×10^{-4}

[Figure 12]

$$T_1 = \sum_{k=1}^{n} p_k t_k \quad \text{... (1)}$$

$$T_2 = \sum_{k=1}^{n} p_k t_k \sum_{i=0}^{\infty} p_1^i \quad \text{... (2)}$$

$$T_\ell = \sum_{k=1}^{n} p_k t_k \sum_{i=0}^{\infty} \left(\sum_{j=1}^{\ell-1} p_j \right)^i = \frac{\sum_{k=1}^{n} p_k t_k}{1 - \sum_{j=1}^{\ell-1} p_j} \quad \text{... (3)}$$